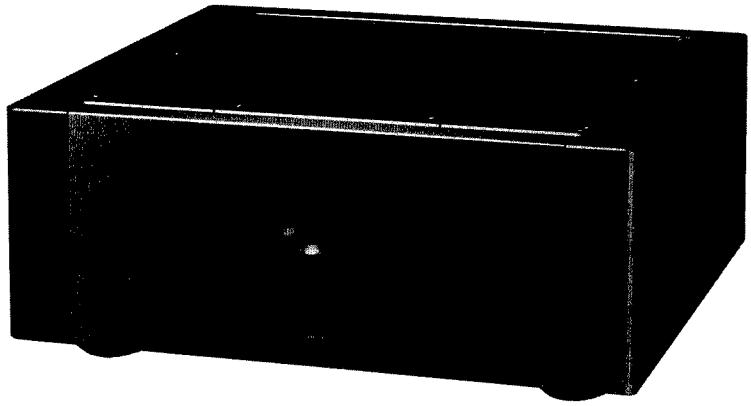
TA-NR1

SERVICE MANUAL

US Model
Germany Model



SPECIFICATIONS

Amplifier section

Type	Pure A-class monaural power amplifier
Circuitry	Complementary Darlington SEPP with all stages directly coupled
Power bandwidth (IHF)	5 Hz – 50 kHz (50 W output, 8 ohms, 0.1% THD)
Overall output (20 Hz – 20 kHz)	200 W (4-ohm load, 0.08% THD) 100 W (8-ohm load, 0.05% THD)
Frequency response	5 Hz – 100 kHz ±3 dB
Input sensitivity	UNBALANCED: 1.1 V (47 kohms) BALANCED: 1.1 V (600 ohms)
Damping factor	50 (8 ohms, 1 kHz)
Residual noise	Less than 30 µV
Signal-to-noise ratio	120 dB
Outputs	SPEAKER terminals Accepts speakers of 4 – 16 ohms.

General

Power requirements	120 V AC, 60 Hz (US model) 220 – 230 V AC, 50/60 Hz (Germany model)
Power consumption	300 W
Dimensions	Approx. 466 x 188 x 462 mm (w/h/d) ($18\frac{3}{8}$ x $7\frac{1}{2}$ x $18\frac{1}{4}$ inches)
Weight	Approx. 47.5 kg (104 lb 12 oz.)

Design and specifications subject to change without notice.

MICROFILM

MONAURAL POWER AMPLIFIER

SONY®

TABLE OF CONTENTS

SERVICING NOTE

1. For protection against scratching in the time of repair and maintenance inspection be sure to lay protective materials, such as a protection sheet, under the set.
2. Do not check the input transformer T1 for continuity. (If checked, the core will magnetized, deteriorating the sound quality.)
3. This set uses select component parts. For replacement of any part, a new genuine part must be used.
4. To prevent a secondary failure, the check of the drive stage, etc. should be made after the final stage has been removed.
5. When a stranded signal-core wire was removed for repair, it must be again wired as before the repair.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

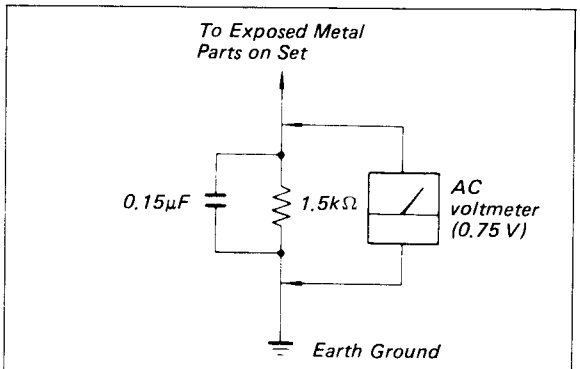


Fig. A. Using an AC voltmeter to check AC leakage.

SECTION 1
GENERAL

This section is extracted from instruction manual.

1-1. LOCATION OF CONTROLS

Front Panel

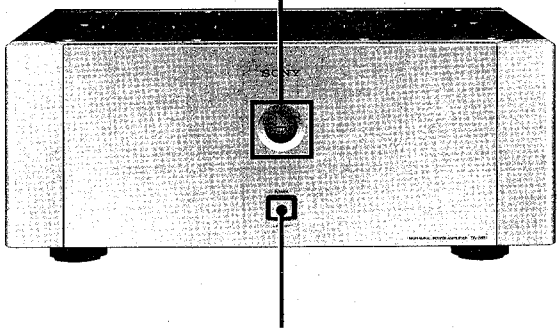
Display window

Protection indicator: Lights red when the POWER switch is turned ON and stays red for approximately 15 seconds. The red light indicates that the protection circuit is activated. The indicator lights green when the protection circuit is canceled and the amplifier is ready to operate. If the indicator changes from green to red while the unit is operating, the unit has encountered an abnormality and has activated the protection circuit. (When the protection circuit is activated, no sound is output to the speaker.) If this occurs, check to see if the SPEAKER terminals are short-circuited or if a DC voltage is being applied to the INPUT terminal.

Temperature indicator: Indicates the internal temperature of the amplifier. Check the internal termperature to drive the amplifier in a good condition.

When the needle is in the C range: The amplifier's internal temperature is within the proper range.

When the needle is in the H range: The amplifier's internal temperature has exceeded the proper range. This occurs when the amplifier is used for a long period of time under severe operating conditions. If this happens, you should let the amplifier cool down by turning the power off for a while or moving it to a location which is better ventilated.



POWER switch

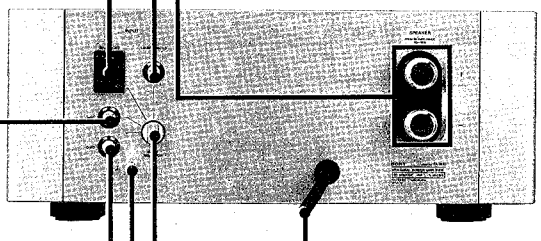
Rear Panel

UNBALANCED INPUT terminal
When making a monaural connection, connect this input terminal to your preamplifier's output terminal.

BALANCED Cannon XLR connector input terminal
When making a balanced connection using Cannon XLR connectors, connect this input terminal to your preamplifier's output terminal.

1 GROUND
2 HOT (+)
3 COLD (–)

SPEAKER terminals
These are screw-type terminals for ensuring positive speaker cord connections. Speaker cords with core wire diameters of up to 12 mm can be used. It is recommended to select a speaker with an allowable input rating large enough to handle the effective output power of the amplifier. Use a speaker with an impedance of 4 – 16 ohms when the amplifier is used as a normal monaural amplifier, and use a speaker with an impedance of 8 – 16 ohms when the amplifier is used in a bridge connection.



HOT (+) INPUT terminal
Use this terminal when making a bridge connection where two amplifiers are used for each channel. Set the INPUT SELECTOR switch to HOT. (See page 7.)

Power cord

COLD (–) INPUT terminal
Use this terminal when making a bridge connection where two amplifiers are used for each channel. Set the INPUT SELECTOR switch to COLD. (See page 7.)

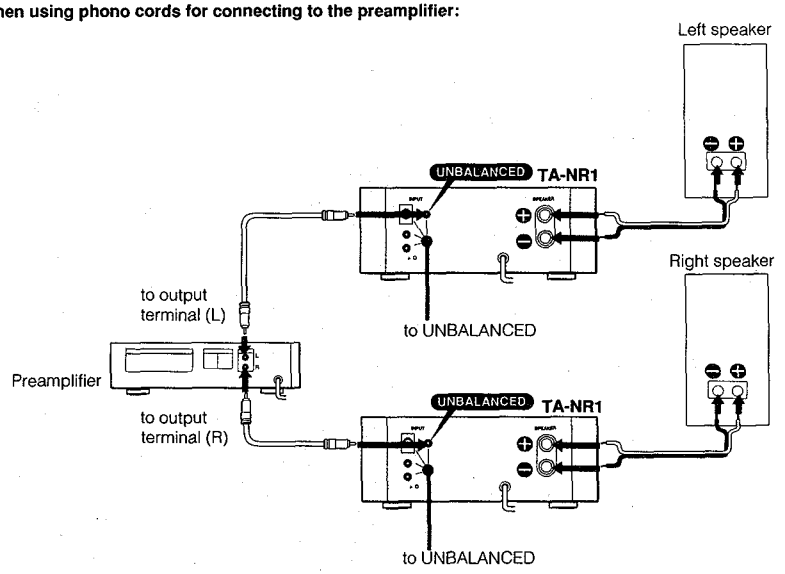
INPUT SELECTOR switch
Set to the position corresponding to the input terminal connection.

Ground terminal (⏚)
Connect a ground wire to this terminal.

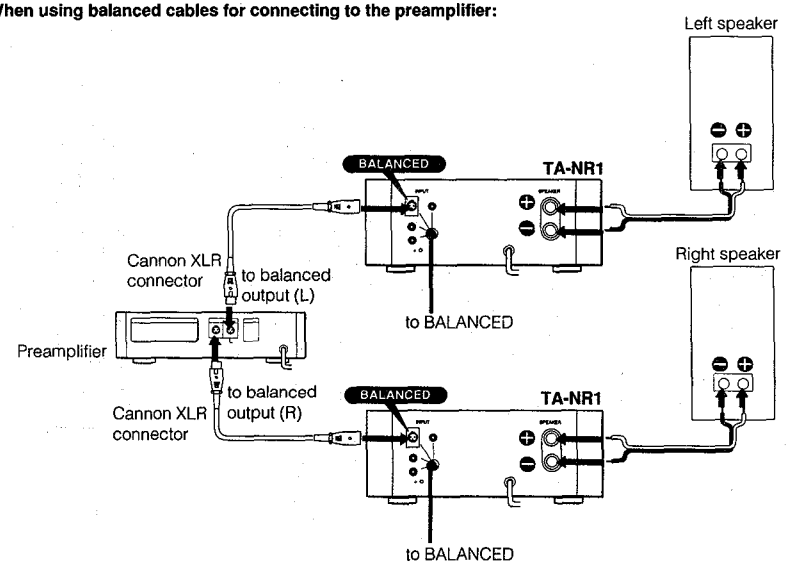
1-2. CONNECTIONS

Monaural amplifier connection

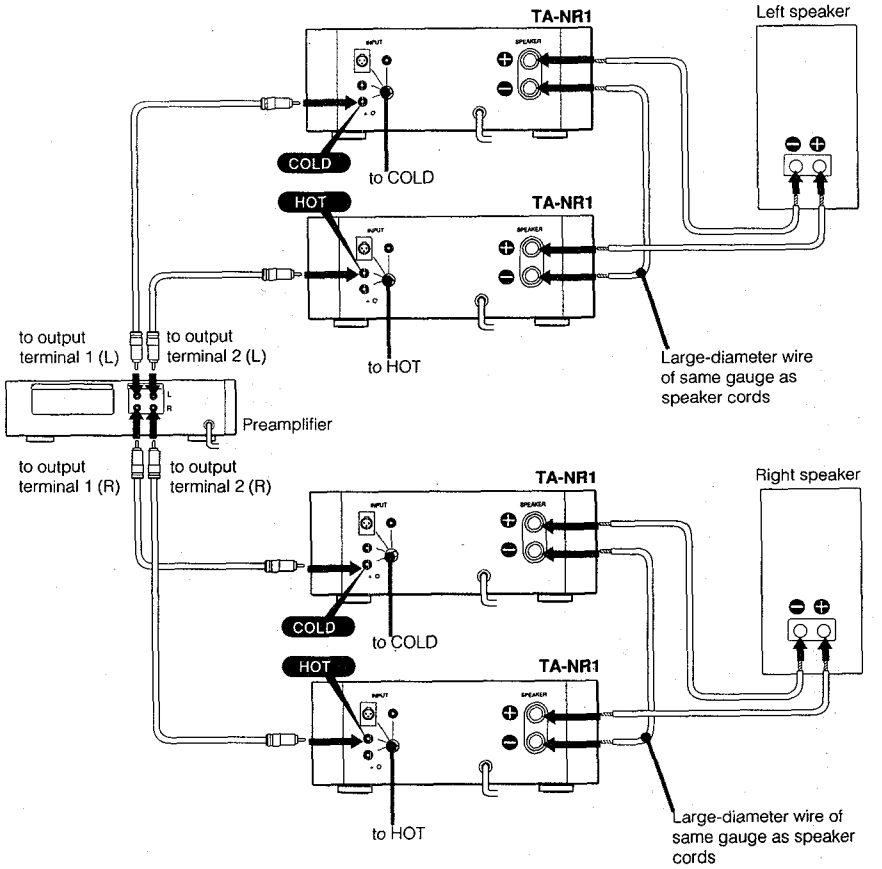
When using phono cords for connecting to the preamplifier:



When using balanced cables for connecting to the preamplifier:



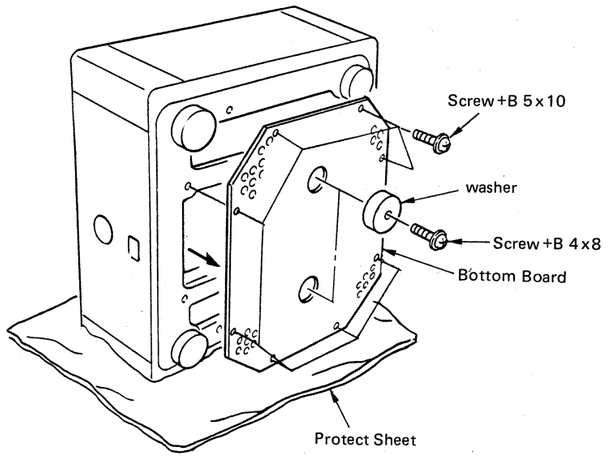
Bridge connection using two amplifiers for each channel



SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

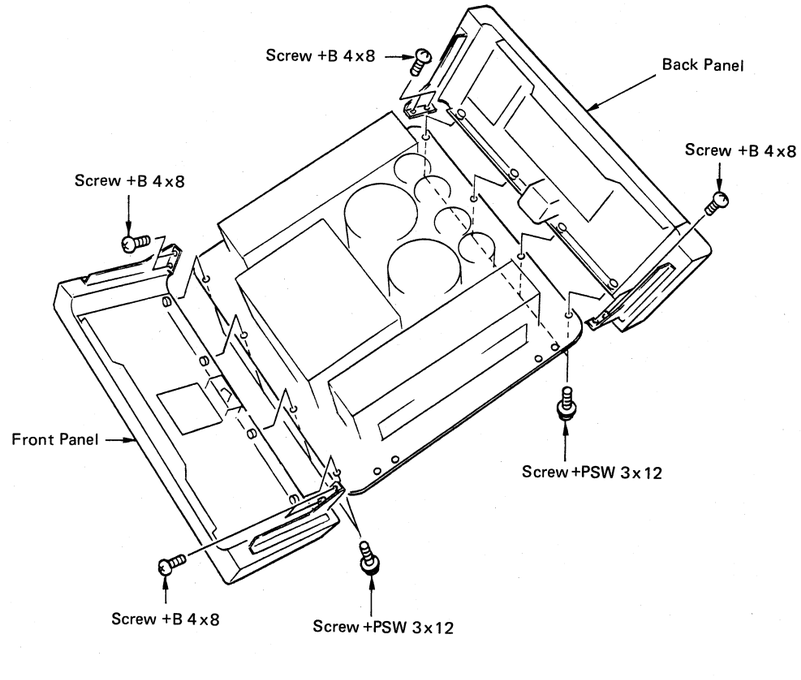
[PS BOARD, FUSE BOARD]



[MAIN (B–L)/(B–R) BOARD, IC BOARD]

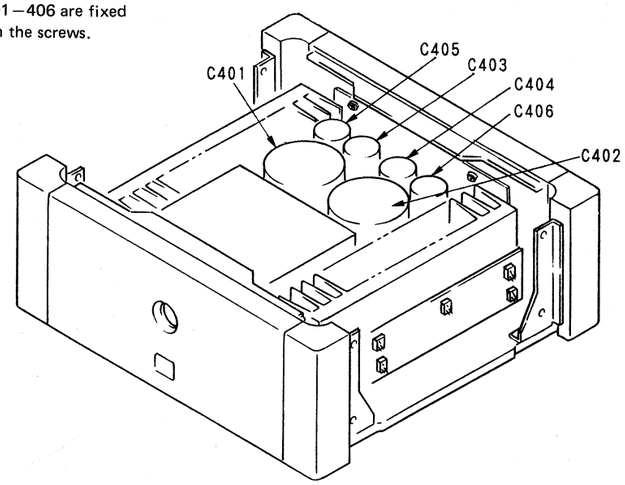
[FRONT PANEL SIDE: DRIVE BOARD, LED (L)/(R) BOARD, METER]

[BACK PANEL SIDE: MAIN (A) BOARD, SP.TM BOARD]



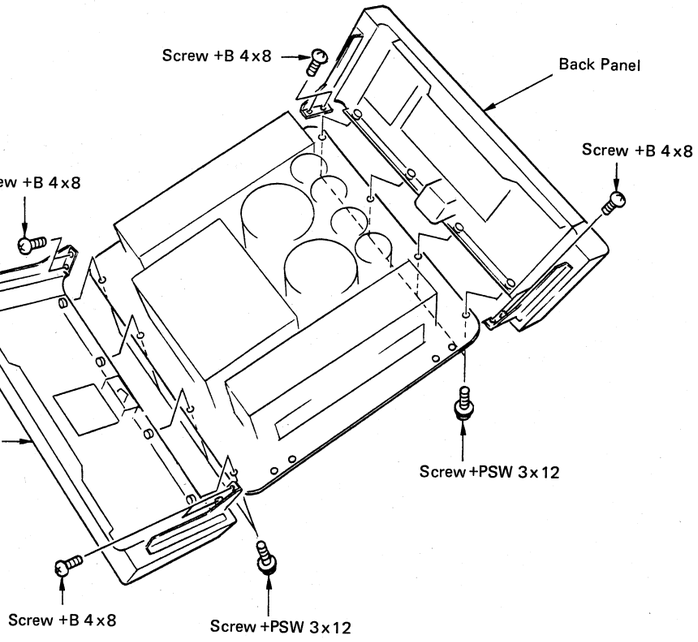
[LOCATION OF ELECTRICAL CAPACITOR (PS BOARD)]

C401–406 are fixed with the screws.



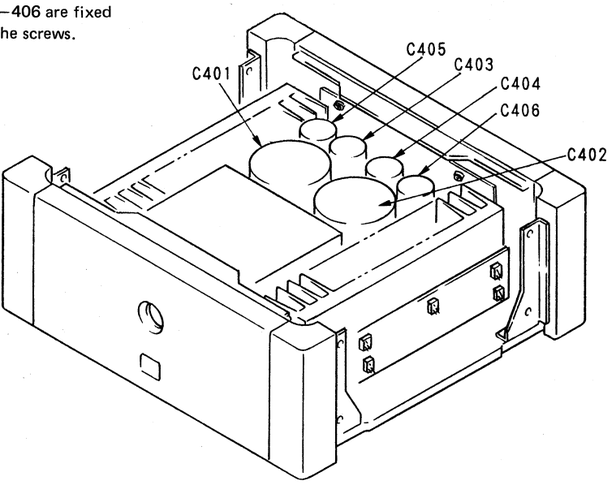
EL SIDE: DRIVE BOARD, LED (L)/(R) BOARD, METER]

L SIDE: MAIN (A) BOARD, SP.TM BOARD]



N OF ELECTRICAL CAPACITOR (PS BOARD)]

-406 are fixed
he screws.



SECTION 3
ELECTRICAL ADJUSTMENTS

- Precautions for adjustment.
  - Before starting the adjustment, keep the unit powered for about 10 minutes under the conditions of no load and no signal.
  - In the process of adjustment, heat dissipation should be taken into account with caution to protect the unit from direct wind blows. If not, the measurements may fluctuate.
  - This adjustment must be made after such a major component as the final-stage transistor is replaced.

[IDLING CURRENT ADJUSTMENT]

Procedure:

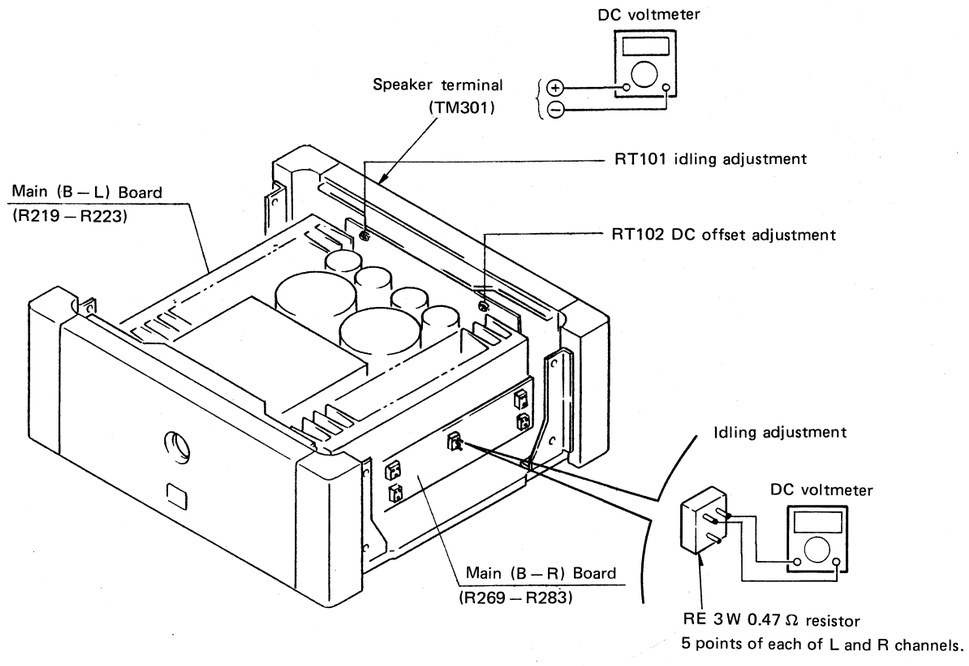
1. Connect a DC voltmeter (digital voltmeter) to respective leads of R219 to R223 and R269 to R273, and measure the voltage across each resistor.
2. Adjust RT101 so that the average of voltages at the above 10 places will be 0.15 V (± 0.02 V).

[DC OFFSET ADJUSTMENT]

Procedure:

1. Connect the DC voltmeter to both terminals of the SP terminal (TM301), and adjust RT102 so that the indication of the DC voltmeter will become 0 V.

Adjustment positions:

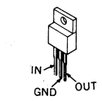


4-1. SEMICONDUCTOR LEAD LAYOUTS

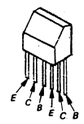
LM35DZ

2SA1216
2SC2922

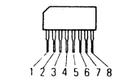
M5F78M12



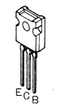
2SA1349-GR·BL



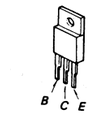
μPC1237HA



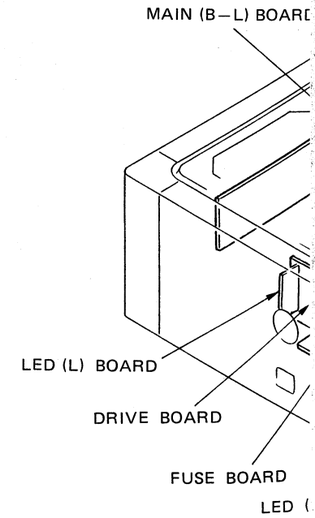
2SA1360
2SC3423



2SA985A-QP
2SC2275-P



4-2. CIRCUIT BOARDS LOCATION

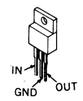


SECTION 4
DIAGRAMS

4-1. SEMICONDUCTOR LEAD LAYOUTS

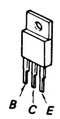
LM35DZ

M5F78M12



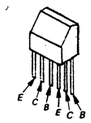
μPC1237HA

2SA985A-QP
2SC2275-P

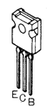


2SA1216
2SC2922

2SA1349-GR·BL



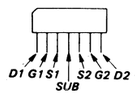
2SA1360
2SC3423



2SA733-QP
2SC1815BL
2SC1845EA

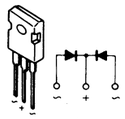
2SK246-GR3

2SK389-GR

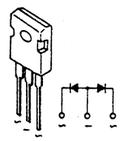


2SJ74

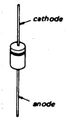
C16P20F
C25P20F



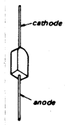
C16P20FR
C25P20FR



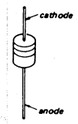
10E2
HZ6C2L



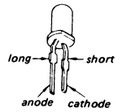
SV-02
SV-04



1SS120



SEL2210S-C



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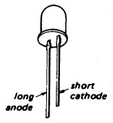
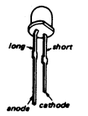
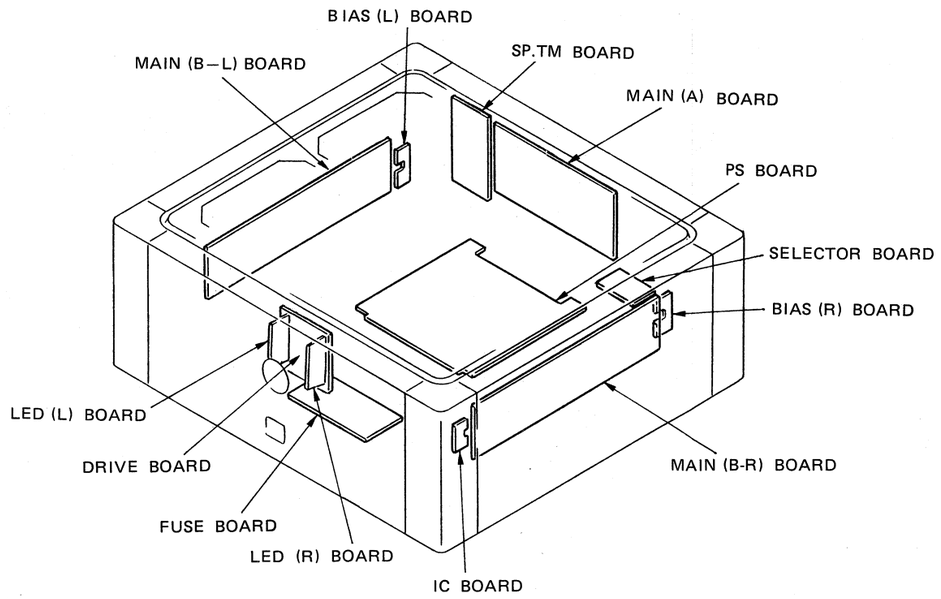


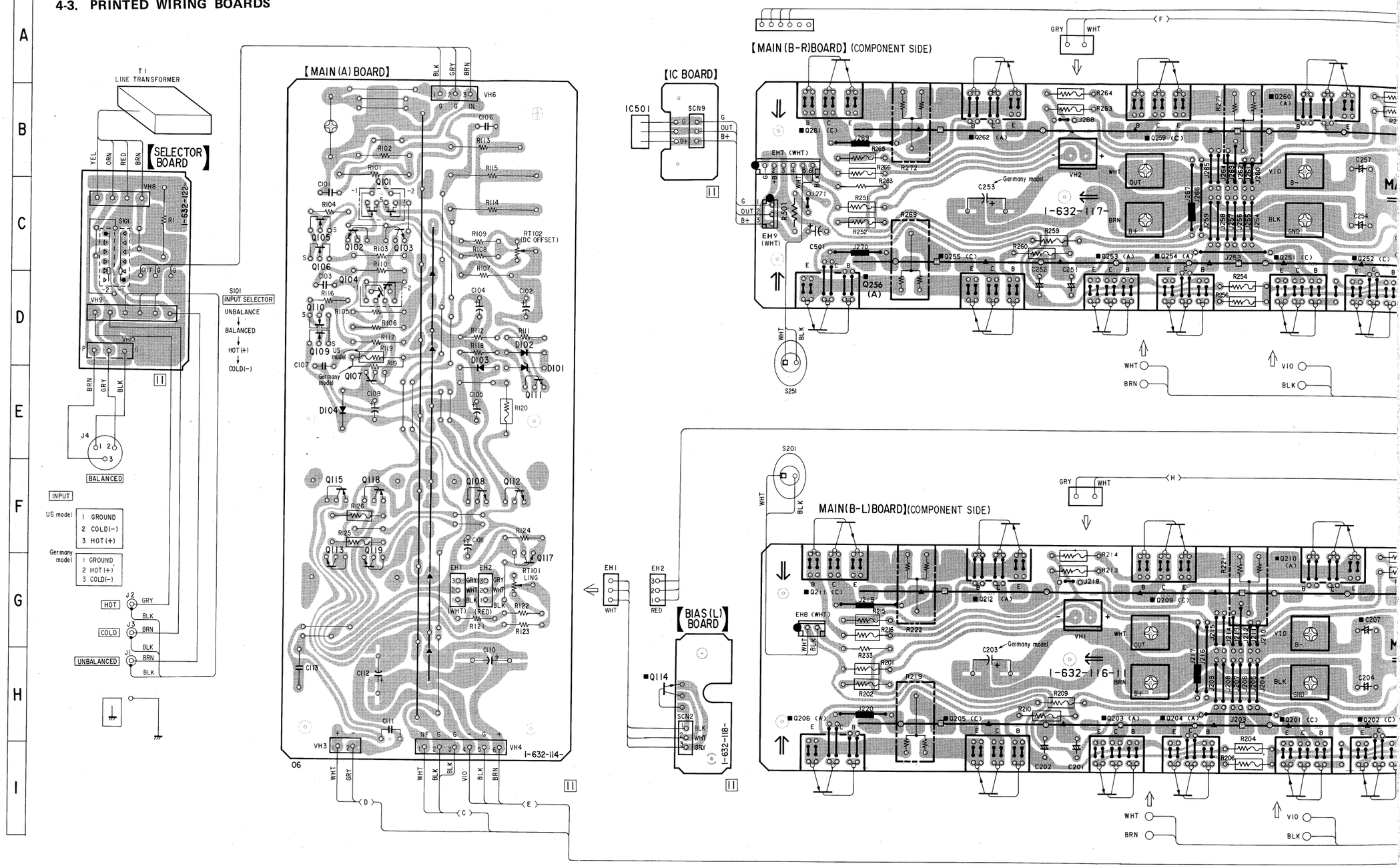
SEL2910A-D



4-2. CIRCUIT BOARDS LOCATION



4-3. PRINTED WIRING BOARDS

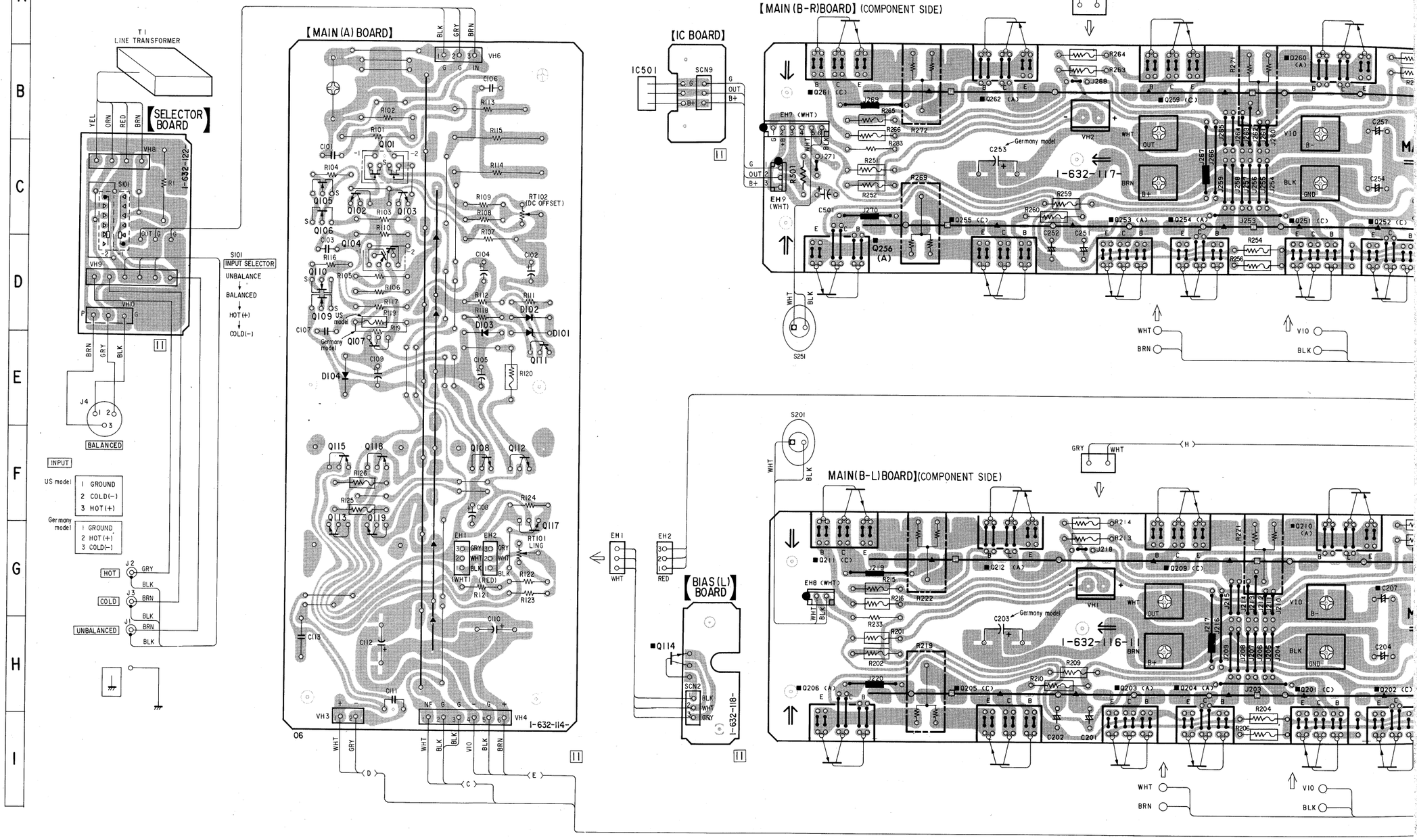


Note:

- ○—— : parts extracted from the component side.
- Bus bar in use with the mark.

  ▲ : B +
  ○ : B −
  □ : CENTER VOLTAGE (OUTPUT)

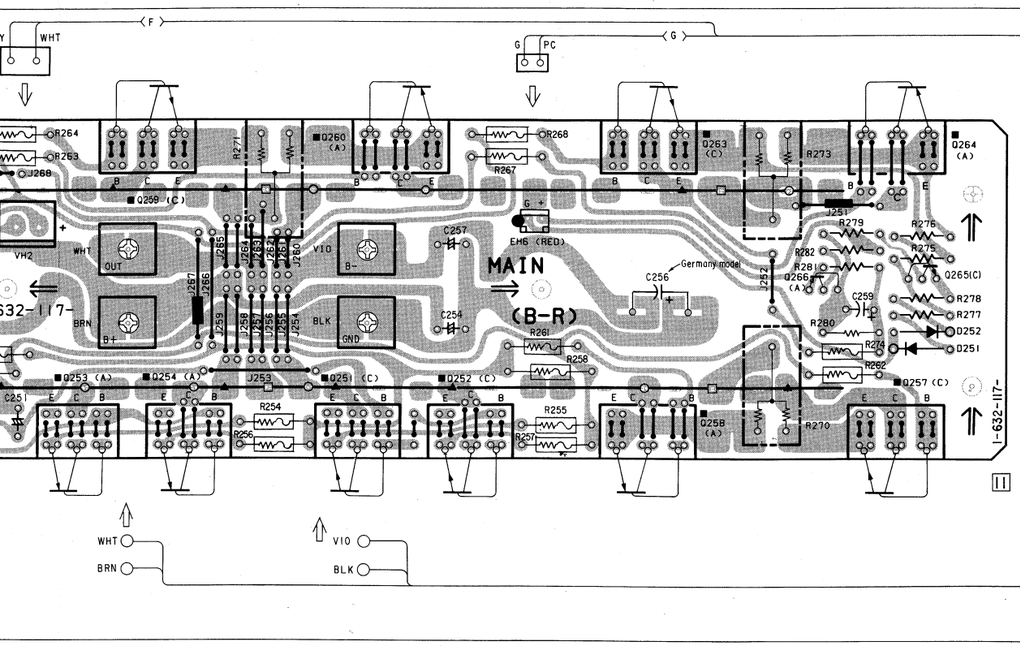
4-3. PRINTED WIRING BOARDS

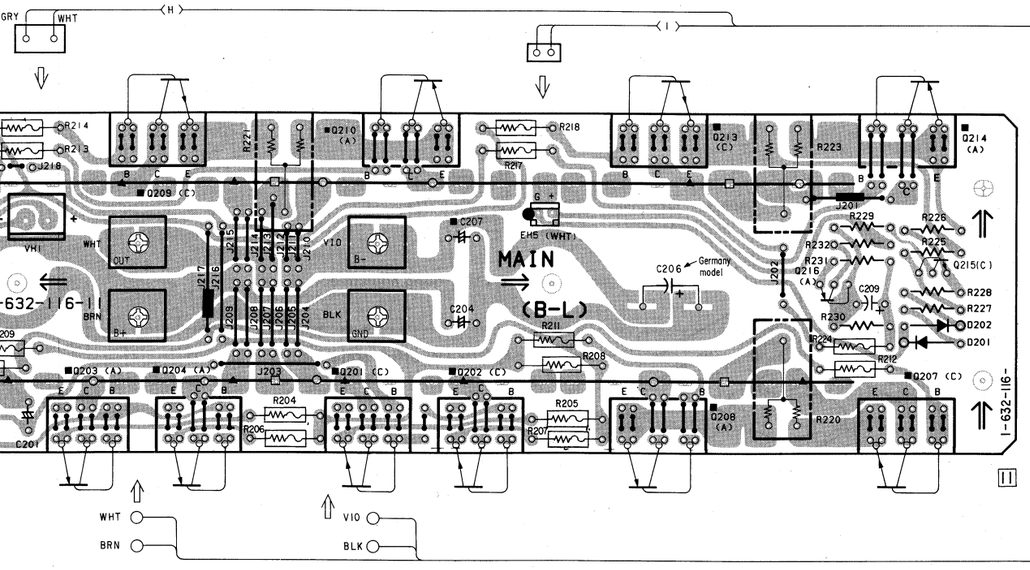


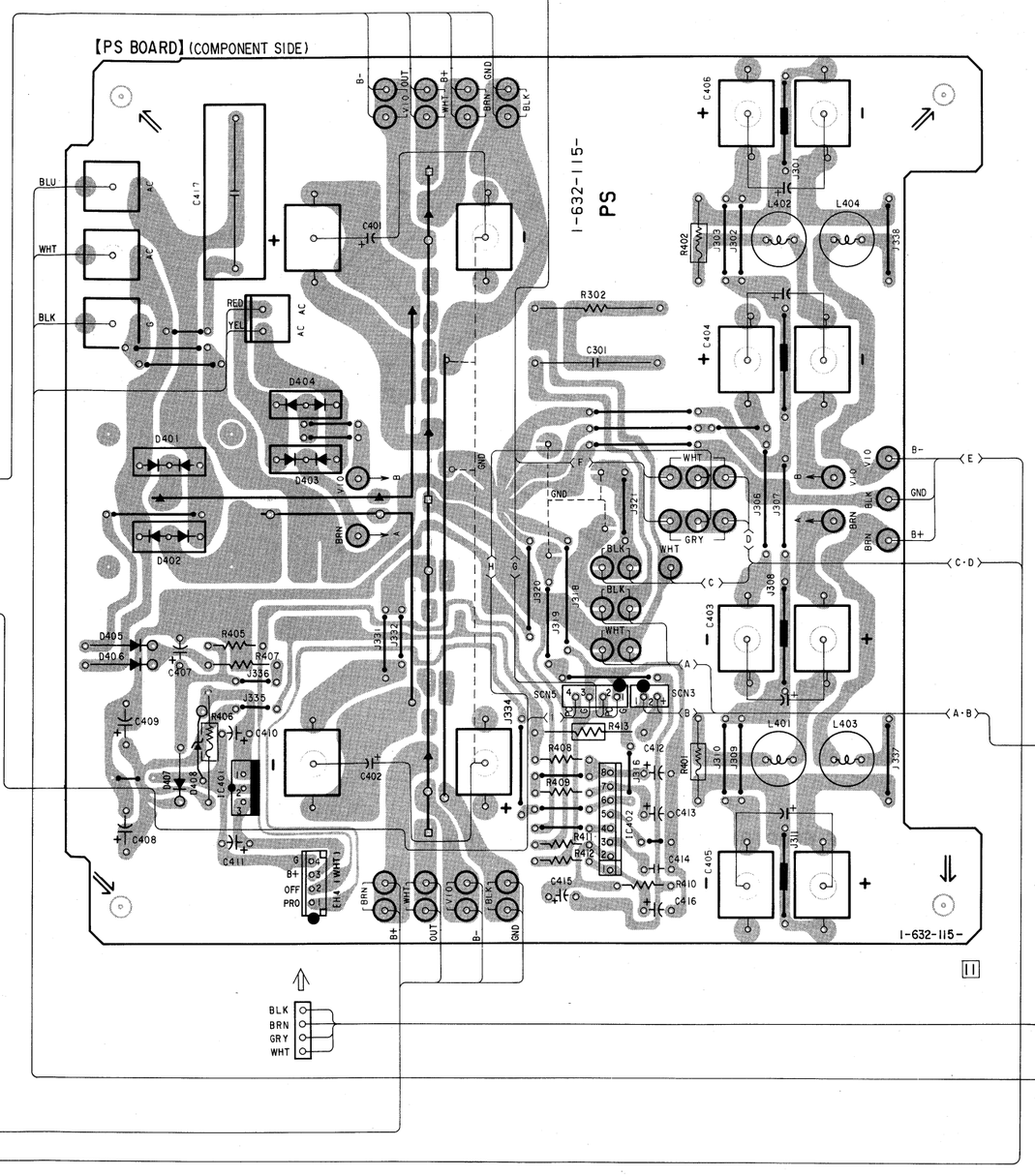
Note:

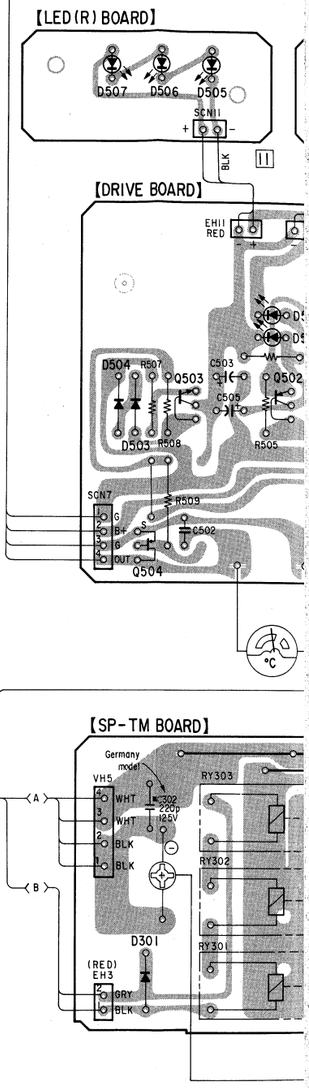
- ○—— : parts extracted from the component side.
- Bus bar in use with the mark.

  ▲ : B +
  ○ : B −
  □ : CENTER VOLTAGE (OUTPUT)

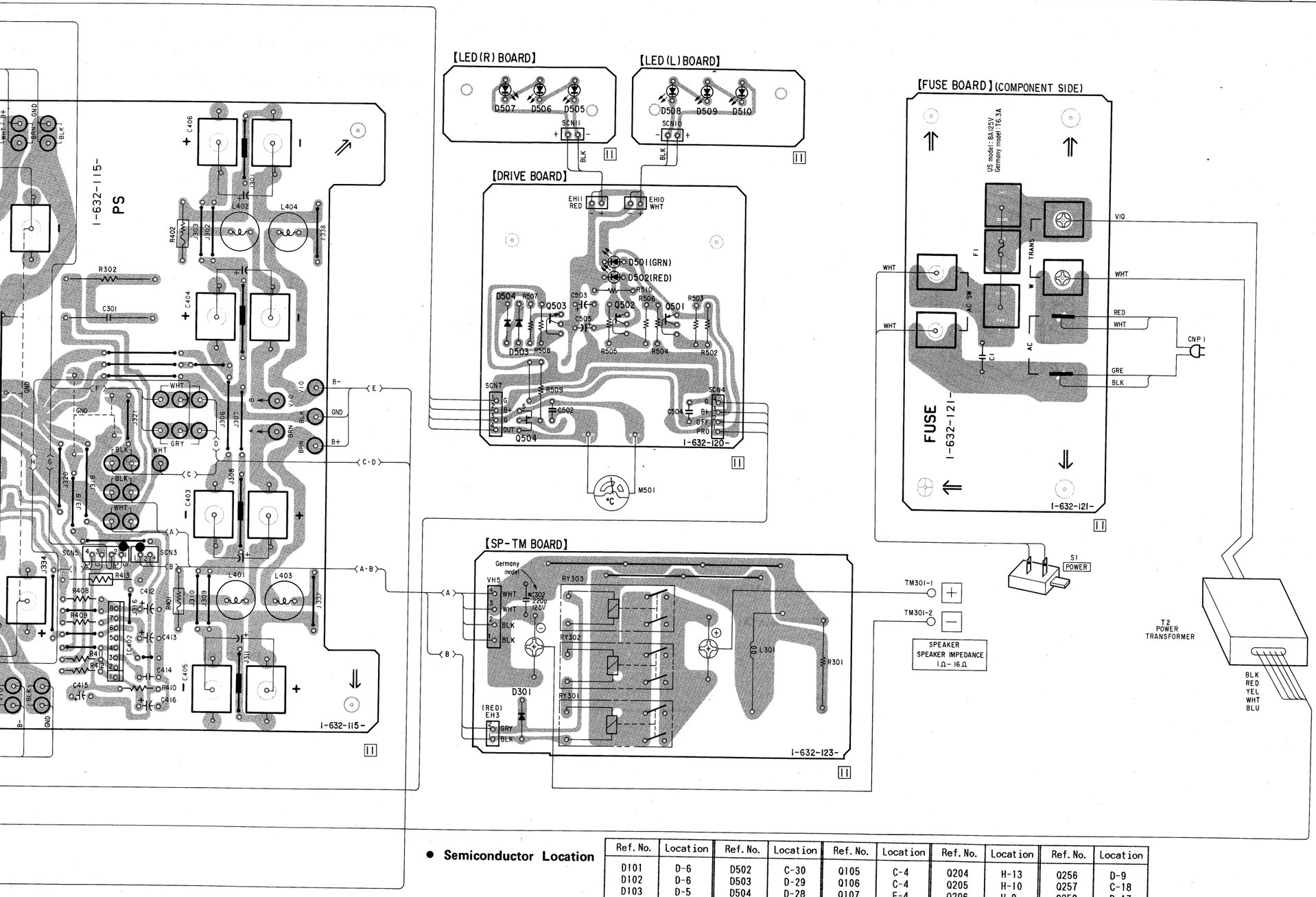








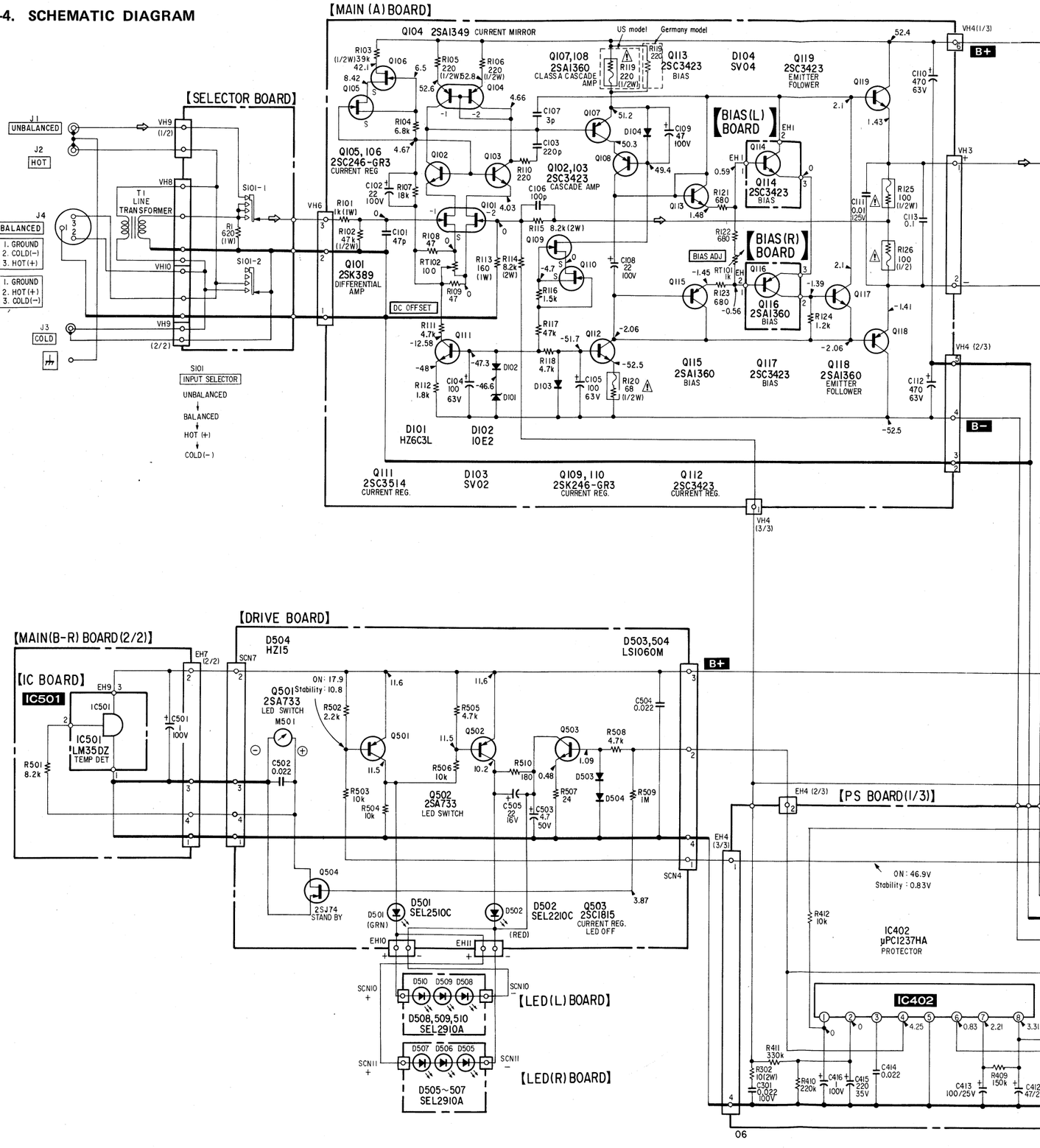
● **Semiconductor Location**

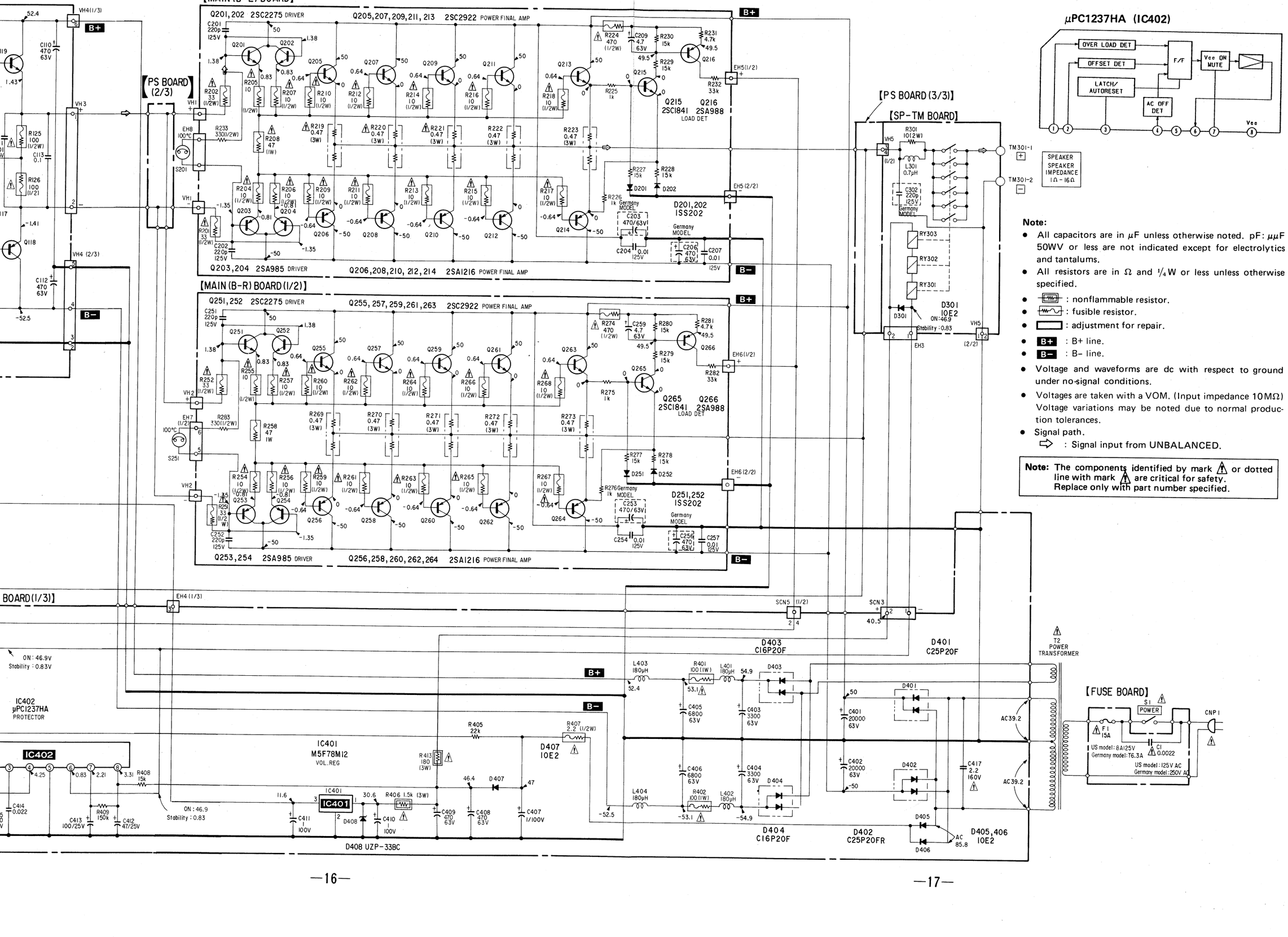


● **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D101	D-6	D502	C-30	Q105	C-4	Q204	H-13	Q256	D-9
D102	D-6	D503	D-29	Q106	C-4	Q205	H-10	Q257	C-18
D103	D-5	D504	D-28	Q107	E-4	Q206	H-9	Q258	D-17
D104	E-4	D505	B-29	Q108	F-5	Q207	H-18	Q259	B-13
D201	H-18	D506	B-29	Q109	D-4	Q208	H-18	Q260	B-14
D202	H-18	D507	B-28	Q110	D-4	Q209	G-13	Q261	B-9
D251	C-18	D508	B-30	Q111	E-6	Q210	F-14	Q262	B-11
D252	C-18	D509	B-30	Q112	F-6	Q211	G-9	Q263	B-17
D301	H-29	D510	B-31	Q113	F-4	Q212	G-11	Q264	B-18
D401	D-21			Q114	H-7	Q213	G-17	Q265	C-18
D402	E-21	IC401	G-22	Q115	F-4	Q214	G-18	Q266	C-17
D403	E-22	IC402	G-25	Q116	B-19	Q215	G-18	Q501	D-30
D404	D-22	IC501	B-7	Q117	G-6	Q216	G-17	Q502	D-30
D405	F-21			Q118	F-4	Q251	C-14	Q503	D-29
D406	F-21	Q101	C-4	Q119	F-4	Q252	C-15	Q504	E-29
D407	G-21	Q102	C-4	Q201	H-14	Q253	C-12		
D408	G-21	Q103	C-4	Q202	H-15	Q254	C-13		
D501	C-30	Q104	D-4	Q203	H-12	Q255	C-10		

4-4. SCHEMATIC DIAGRAM





Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- : nonflammable resistor.
- : fusible resistor.
- : adjustment for repair.
- B+ : B+ line.
- B− : B− line.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM. (Input impedance 10MΩ) Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : Signal input from UNBALANCED.

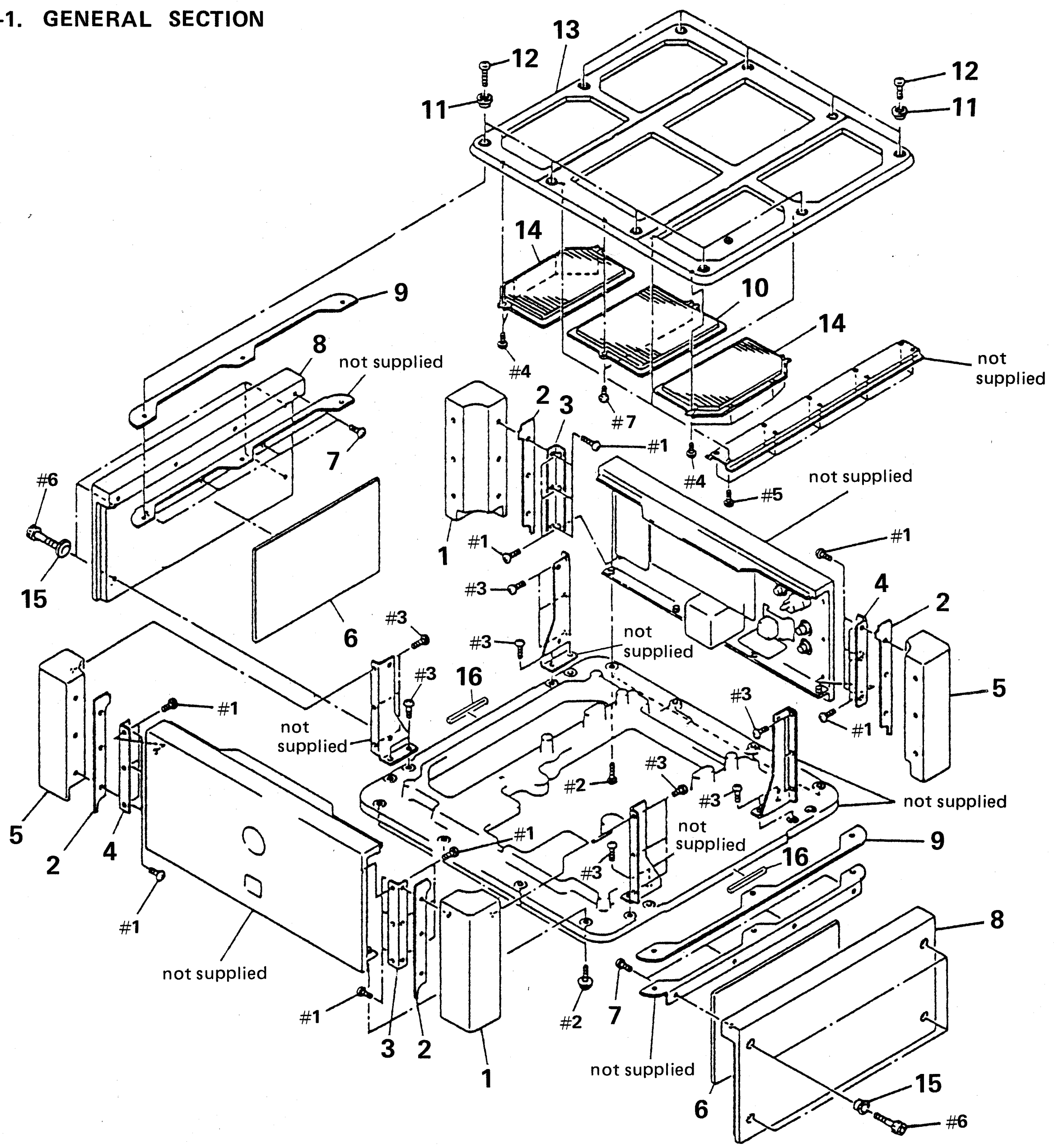
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

SECTION 5 EXPLODED VIEWS

NOTE:
- –XX, –X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ Parts color ↑ Cabinet's color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

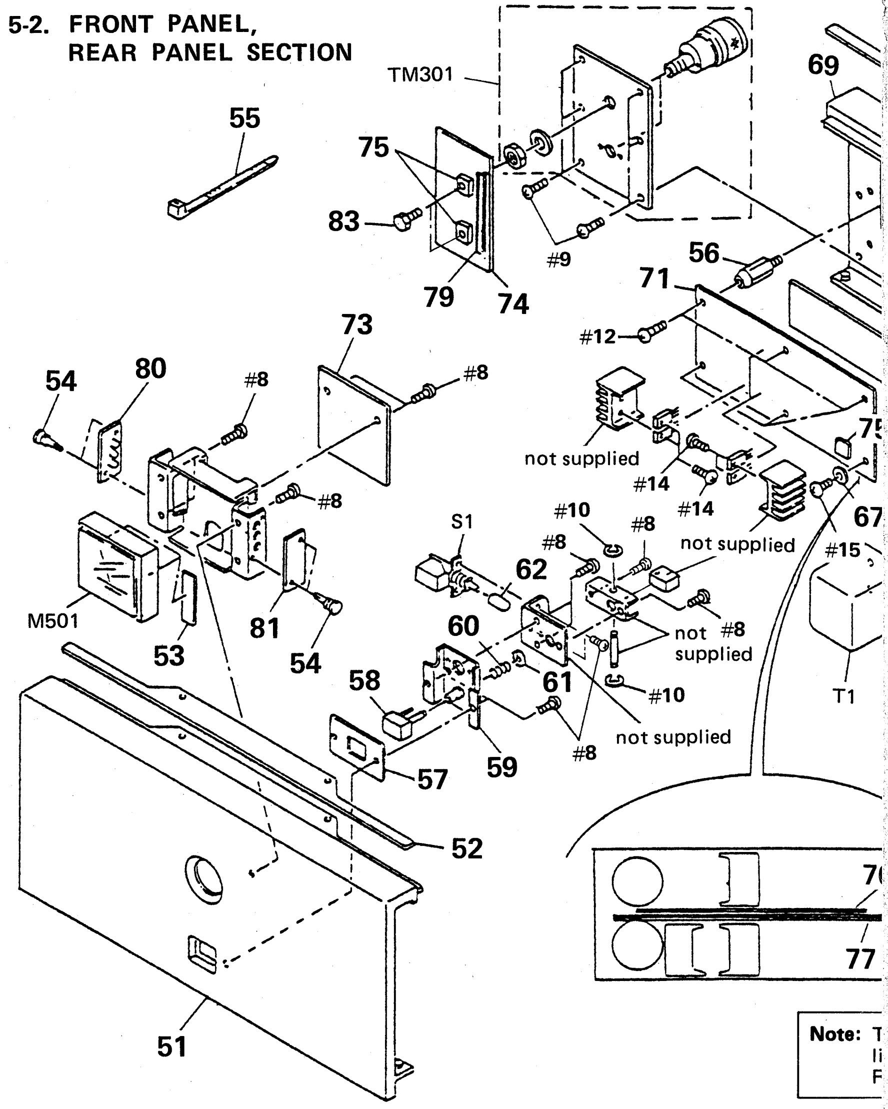
5-1. GENERAL SECTION



Ref. No.	Part No.	Description	Remark
1	4-935-237-01	PANEL (RIGHT), SIDE	
2	4-935-201-01	SPACER	
3	4-935-203-01	BRACKET (RIGHT)	
4	4-935-202-01	BRACKET (LEFT)	
5	4-935-236-01	PANEL (LEFT), SIDE	
6	9-911-851-XX	ABSORBENT, ACOUSTIC	
7	4-874-614-11	SCREW (4) (3.5X14), TAPPING	
8	X-4935-204-1	PLATE ASSY, SIDE, ORNAMENTAL	
9	4-935-232-01	PACKING (A), TOP PLATE (Germany)	
9	4-935-232-11	PACKING (A), TOP PLATE (US)	

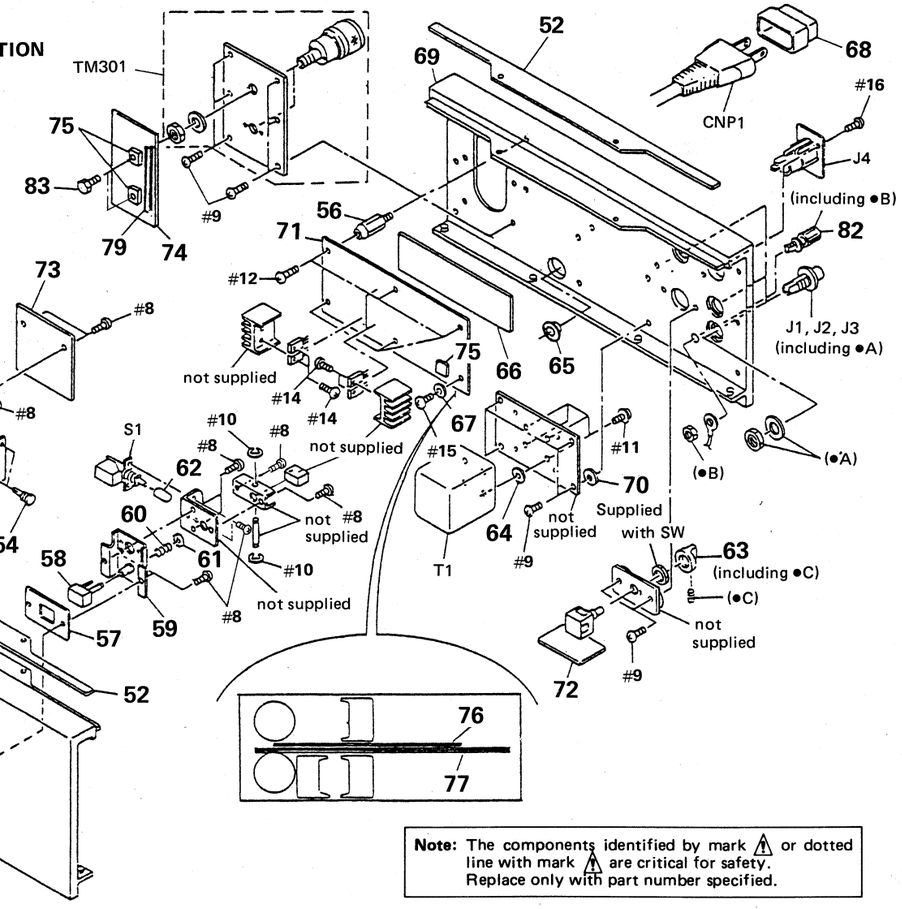
Ref. No.	Part No.	Description	Remark
10	4-935-228-01	GRILLE (A)	
11	4-924-237-01	ESCUTCHEON (A)	
12	4-924-242-21	SCREW (M3X10), FLAT HEAD	
13	4-935-242-01	PLATE (A), TOP	
14	4-935-229-01	GRILLE (B)	
15	4-924-241-01	ESCUTCHEON (B)	
16	9-911-840-XX	CUSHION	

5-2. FRONT PANEL, REAR PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	4-935-234-01	PANEL, FRONT	
52	4-935-233-01	PACKING (B), TOP PLATE (Germany)	
52	4-935-233-11	PACKING (B), TOP PLATE (US)	
53	9-911-844-XX	CUSHION, GRILLE	
54	4-812-134-00	RIVET NYLON, 3.5	
55	3-655-653-21	BAND (TAITON), BINDING	
56	* 4-935-216-01	BOSS	
57	4-924-245-01	PLATE (E), ORNAMENTAL	
58	X-4935-201-1	BUTTON ASSY	
59	* X-4924-202-1	BRACKET (E) ASSY	
60	* 4-880-426-00	SPRING, COMPRESSION	
61	4-862-338-00	RING, STOPPER	
62	4-935-221-01	CAP	
63	4-924-256-01	KNOB (B)	
64	4-885-984-21	WASHER	
65	* 4-946-389-01	ESCUTCHEON, CORD	
66	9-911-851-XX	ABSORBENT, ACOUSTIC	
67	4-908-961-11	WASHER	
68	4-362-304-00	GUARD, PLUG (US)	
69	* 4-935-235-21	PANEL, BACK (Germany)	
69	* 4-935-235-11	PANEL, BACK (US)	
70	4-916-751-01	WASHER	

Ref. No.	Part No.
71	* A-4345-3
71	* A-4345-3
72	* 1-632-12
73	* 1-632-12
74	* 1-632-12
75	* 4-835-63
76	1-564-29
77	* 1-564-39
78	* 1-560-24
79	* 1-560-24
80	* 1-633-16
81	* 1-633-16
82	* 4-935-25
83	* 4-931-96
CNP1 ⚠	1-559-47
CNP1 ⚠	1-559-27
J1	1-568-91
J2	1-568-91
J3	1-568-91
J4	1-568-91
M501	1-520-50
S1	1-554-53
T1	1-424-29
TM301	1-537-24

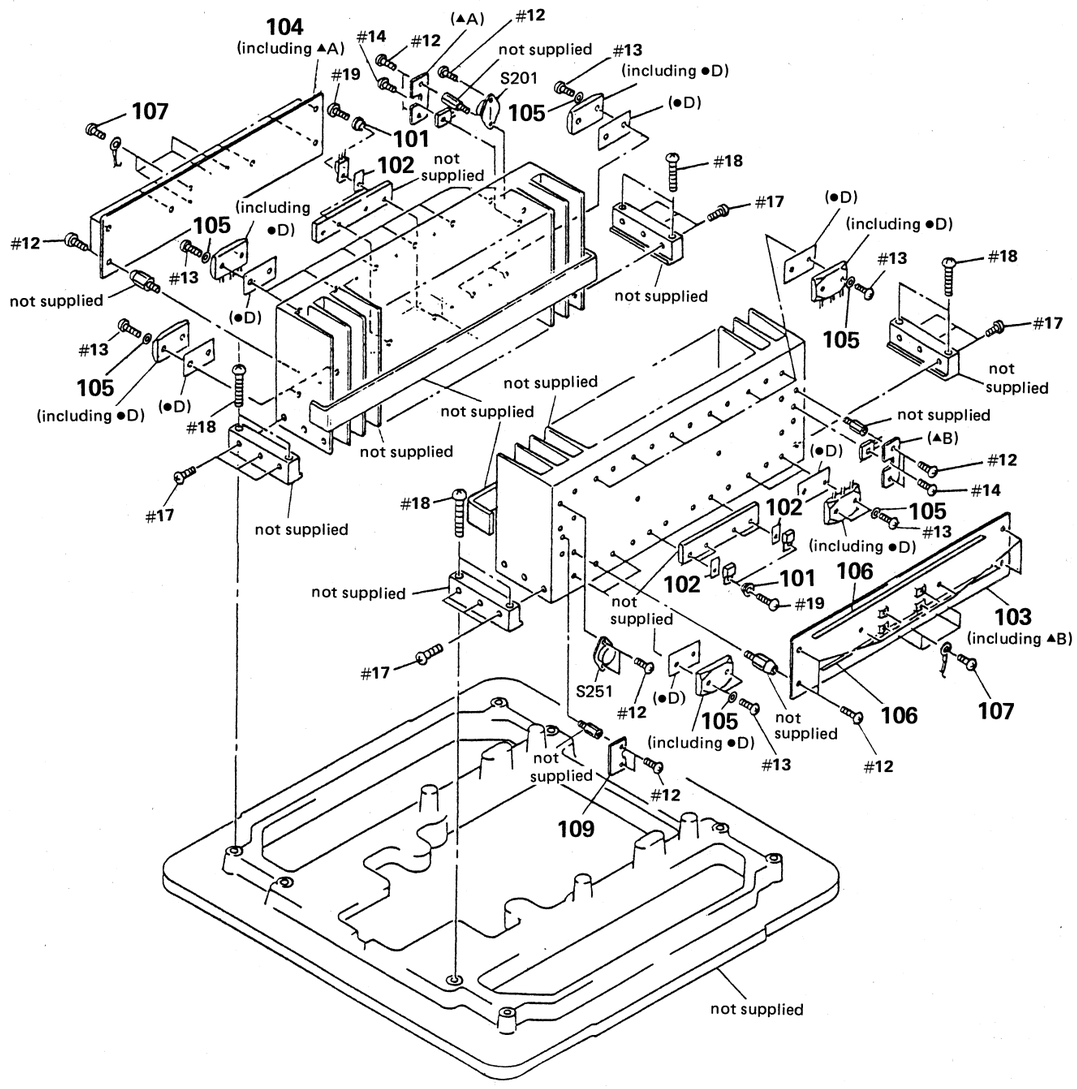


Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Description	Remark
PANEL, FRONT	
PACKING (B), TOP PLATE (Germany)	
PACKING (B), TOP PLATE (US)	
CUSHION, GRILLE	
RIVET NYLON, 3.5	
BAND (TAITON), BINDING	
BOSS	
PLATE (E), ORNAMENTAL	
BUTTON ASSY	
BRACKET (E) ASSY	
SPRING, COMPRESSION	
RING, STOPPER	
CAP	
KNOB (B)	
WASHER	
ESCUTCHEON, CORD	
ABSORBENT, ACOUSTIC	
WASHER	
GUARD, PLUG (US)	
PANEL, BACK (Germany)	
PANEL, BACK (US)	
WASHER	

Ref.No.	Part No.	Description	Remark
71	* A-4345-337-A	MAIN (A) BOARD, COMPLETE (US)	
71	* A-4345-353-A	MAIN (A) BOARD, COMPLETE (Germany)	
72	* 1-632-122-11	SELECTOR BOARD	
73	* 1-632-120-11	DRIVE BOARD	
74	* 1-632-123-11	SP. TM BOARD	
75	* 4-835-639-00	PLATE, GROUND	
76	1-564-295-00	BAR, BUS	
77	* 1-564-393-00	BUS BAR 9P	
78	* 1-560-242-21	BUS BAR 4P	
79	* 1-560-242-11	BUS BAR 3P	
80	* 1-633-166-11	LED (L) BOARD	
81	* 1-633-167-11	LED (R) BOARD	
82	* 4-935-253-01	TERMINAL, SP	
83	* 4-931-964-01	SCREW (M4X6)	
CNP1	⚠ 1-559-479-11	CORD, POWER (US)	
CNP1	⚠ 1-559-271-11	CORD, POWER (Germany)	
J1	1-568-918-11	JACK, PIN 1P (UNBALANCED)	
J2	1-568-918-11	JACK, PIN 1P (HOT)	
J3	1-568-918-11	JACK, PIN 1P (COLD)	
J4	1-568-917-11	CONNECTOR, CANON (SOCKET) 3P (BALANCED)	
M501	1-520-507-11	METER	
S1	1-554-538-00	SWITCH, PUSH (AC POWER) (1 KEY) (POWER)	
T1	1-424-299-11	TRANSFORMER, LINE	
TM301	1-537-248-11	TERMINAL BORAD (SPEAKER 2P)	

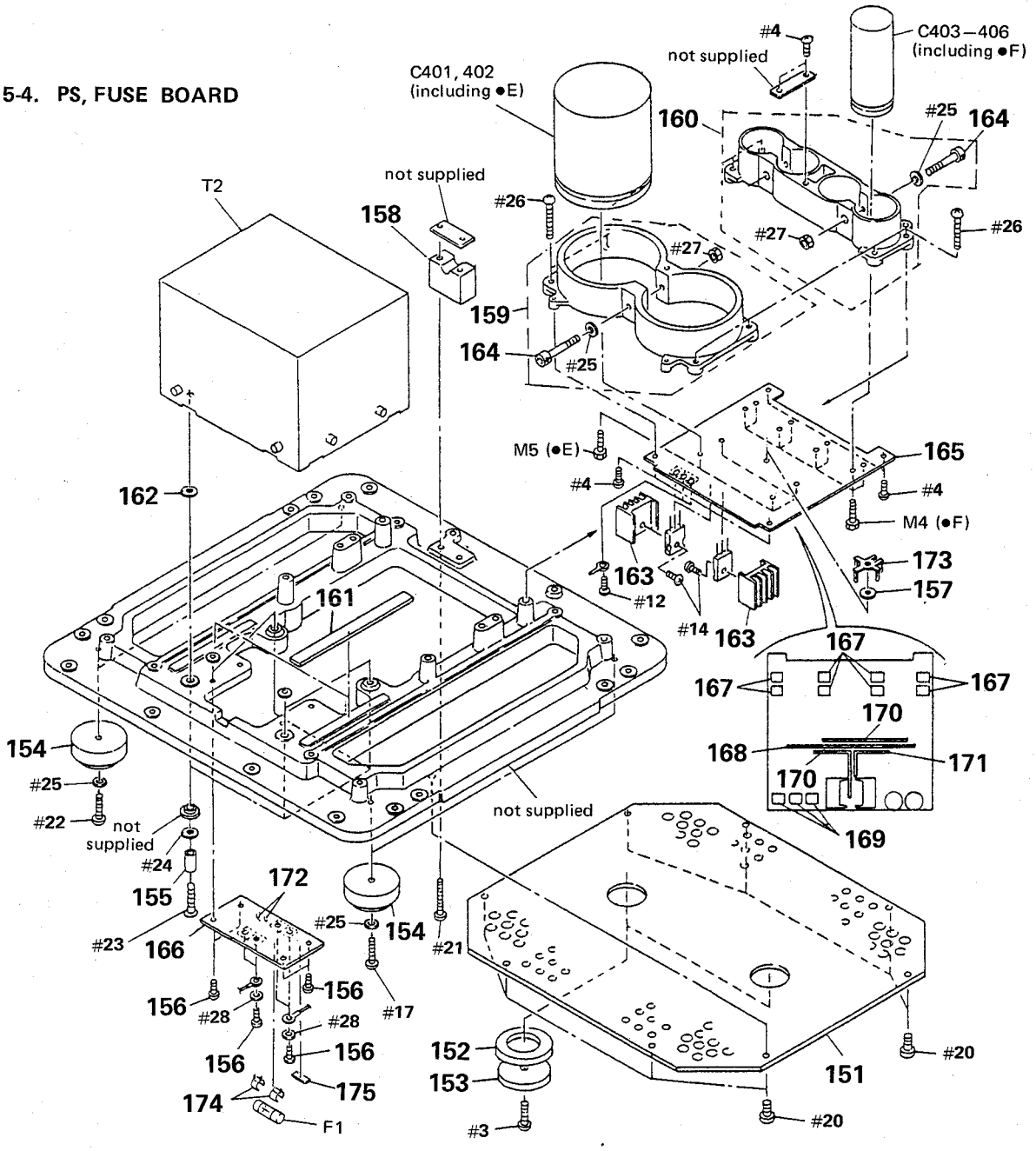
5-3. HEAT SINK SECTION



Ref.No.	Part No.	Description	Remark
101	2-371-561-00	BUSHING (P), INSULATING	
102	4-916-721-01	SHEET, INSULATING	
103	* A-4345-340-A	MAIN (B-R) BOARD, COMPLETE (US)	
103	* A-4345-355-A	MAIN (B-R) BOARD, COMPLETE (Germany)	
104	* A-4345-339-A	MAIN (B-L) BOARD, COMPLETE (US)	
104	* A-4345-354-A	MAIN (B-L) BOARD, COMPLETE (Germany)	

Ref.No.	Part No.	Description	Remark
105	4-908-961-01	WASHER	
106	1-565-063-11	BAR, BUS	
107	* 4-931-964-01	SCREW (M4X6)	
109	* 1-633-170-11	IC BOARD	
S201	1-576-080-11	THERMOSTAT	
S251	1-576-080-11	THERMOSTAT	

5-4. PS, FUSE BOARD



Ref. No.	Part No.	Description	Remark
151	4-935-240-01	BOARD, BOTTOM	
152	4-935-250-11	WASHER	
153	4-935-252-01	WASHER	
154	X-4924-207-1	FOOT ASSY	
155	* 2-640-757-01	SPACER	
156	* 4-931-964-01	SCREW (M4X6)	
157	* 3-555-872-21	SPACER	
158	* 4-946-387-01	STOPPER, CORD	
159	* X-4935-205-1	HOLDER (A) ASSY	
160	* X-4935-206-1	HOLDER (B) ASSY	
161	* 4-935-249-01	ABSORBENT, VIBRATION	
162	4-935-250-01	WASHER	
163	* 4-921-402-01	HEAT SINK	
164	4-946-777-01	BOLT (C4X55), HEXAGON SOCKET	
165	* A-4345-075-A	PS BOARD, COMPLETE (Germany)	
165	* A-4345-338-A	PS BOARD, COMPLETE (US)	
166	* 1-632-121-11	FUSE BOARD	
167	* 4-835-639-00	PLATE, GROUND	
168	1-564-295-00	BAR, BUS	
170	* 1-560-242-31	BUS BAR 4P	
171	* 1-560-242-21	BUS BAR 4P	
172	1-535-476-11	TERMINAL	
173	* 4-916-791-01	PLATE, GROUND 5P	
174	* 1-533-185-11	HOLDER, FUSE (US)	
174	1-533-183-11	HOLDER, FUSE (Germany)	
175	3-701-947-19	LABEL (T6.3A), FUSE (Germany)	
C401	1-125-583-11	CAP, ELECT 20000MF 63V	
C402	1-125-583-11	CAP, ELECT 20000MF 63V	
C403	1-125-597-11	CAP, ELECT 3300MF 63V	
C404	1-125-597-11	CAP, ELECT 3300MF 63V	
C405	1-125-581-11	CAP, ELECT 6800MF 63V	
C406	1-125-581-11	CAP, ELECT 6800MF 63V	
F1	⚠ 1-532-510-00	FUSE, GLASS TUBE (8.0A) (US)	
F1	⚠ 1-532-325-00	FUSE, TIME-LAG (6.3A) (Germany)	
T2	⚠ 1-450-490-11	TRANSFORMER, POWER (US)	
T2	⚠ 1-450-491-11	TRANSFORMER, POWER (Germany)	

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

MAIN(A) **PS** **BIAS (L)** **BIAS (R)**

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- –XX, –X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF: μF
- COILS
  uH: μH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

Ref. No.	Part No.	Description			Remark
	* A-4345-337-A	MAIN (A) BOARD, COMPLETE (US)			
	* A-4345-353-A	MAIN (A) BOARD, COMPLETE (Germany)			
		**********			
	* A-4345-075-A	PS BOARD, COMPLETE (Germany)			
	* A-4345-338-A	PS BOARD, COMPLETE (US)			
		**********			
	1-535-730-21	LEAD, JUMPER (OFC)			
	1-535-731-21	LEAD, JUMPER (OFC)			
	* 1-560-242-21	BUS BAR 4P			
	* 1-560-242-31	BUS BAR 5P			
	1-564-295-00	BAR, BUS			
	* 1-564-393-00	BUS BAR 9P			
	* 3-555-872-21	SPACER			
	* 4-835-639-00	PLATE, GROUND			
	* 4-916-791-01	PLATE, GROUND, 5P			
	* 4-921-402-01	HEAT SINK			
	7-682-148-15	SCREW, TR			
		< CAPACITOR >			
C101	1-104-322-11	POLYSTYRENE	47PF	10%	400V
C102	1-124-748-11	ELECT	22uF	20%	100V
C103	1-104-233-00	POLYSTYRENE	220PF	10%	125V
C104	1-124-130-00	ELECT	100uF	20%	63V
C105	1-124-130-00	ELECT	100uF	20%	63V
C106	1-104-269-11	POLYSTYRENE	100PF	10%	125V
C107	1-104-320-11	POLYSTYRENE	3PF	10%	400V
C108	1-124-748-11	ELECT	22uF	20%	100V
C109	1-126-988-11	ELECT	47uF	20%	100V
C110	1-125-580-11	ELECT	470uF	20%	63V
C111	1-104-319-11	POLYSTYRENE	10000PF	10%	125V
C112	1-125-580-11	ELECT	470uF	20%	63V
C113	1-130-321-00	FILM	0.1uF	5%	100V
C301	1-136-944-11	FILM	0.022uF	5%	0
C401	1-125-583-11	CAP, ELECT	20000MF		63V
C402	1-125-583-11	CAP, ELECT	20000MF		63V
C403	1-125-597-11	CAP, ELECT	3300MF		63V
C404	1-125-597-11	CAP, ELECT	3300MF		63V
C405	1-125-581-11	CAP, ELECT	6800MF		63V
C406	1-125-581-11	CAP, ELECT	6800MF		63V
C407	1-123-380-00	ELECT	1uF	20%	100V
C408	1-126-066-11	ELECT	470uF	20%	63V
C409	1-126-066-11	ELECT	470uF	20%	63V
C410	1-123-380-00	ELECT	1uF	20%	100V
C411	1-123-380-00	ELECT	1uF	20%	100V
C412	1-124-910-11	ELECT	47uF	20%	50V
C413	1-124-122-11	ELECT	100uF	20%	50V
C414	1-136-157-00	FILM	0.022uF	5%	50V
C415	1-124-484-11	ELECT	220uF	20%	35V
C416	1-123-380-00	ELECT	1uF	20%	100V
C417 ⚠	1-136-880-11	FILM	2.2uF	10%	160V
		< DIODE >			
D101	8-719-910-68	DIODE	HZ6C2L		
D102	8-719-200-02	DIODE	10E2		
D103	8-719-300-02	DIODE	SV-02		
D104	8-719-300-04	DIODE	SV-04		
D401	8-719-210-25	DIODE	C25P20F		
D402	8-719-210-26	DIODE	C25P20FR		
D403	8-719-200-39	DIODE	C16P20F		
D404	8-719-200-40	DIODE	C16P20FR		
D405	8-719-200-02	DIODE	10E2		
D406	8-719-200-02	DIODE	10E2		
D407	8-719-200-02	DIODE	10E2		
D408	8-719-016-18	DIODE	UZP-33BC		
		< CONNECTOR >			
EH1	* 1-564-506-11	PLUG, CONNECTOR 3P			
EH2	* 1-564-506-11	PLUG, CONNECTOR 3P			
EH4	* 1-564-507-11	PLUG, CONNECTOR 4P			

MAIN(A) PS BIAS (L) BIAS (R)

Ref. No.	Part No.	Description		Remark
		< IC >		
IC401	8-759-604-39	IC	M5F78M12	
IC402	8-759-111-68	IC	uPC1237HA	
		< COIL >		
L401	* 1-422-203-11	COIL, AIR-CORE	180uH	
L402	* 1-422-203-11	COIL, AIR-CORE	180uH	
L403	* 1-422-203-11	COIL, AIR-CORE	180uH	
L404	* 1-422-203-11	COIL, AIR-CORE	180uH	
		< TRANSISTOR >		
Q101	8-729-203-21	TRANSISTOR	2SK389-GR	
Q102	8-729-203-45	TRANSISTOR	2SC3423	
Q103	8-729-203-45	TRANSISTOR	2SC3423	
Q104	8-729-232-00	TRANSISTOR	2SA1349-GRBL	
Q105	8-729-202-67	TRANSISTOR	2SK246GR3	
Q106	8-729-202-67	TRANSISTOR	2SK246GR3	
Q107	8-729-209-17	TRANSISTOR	2SA1360	
Q108	8-729-209-17	TRANSISTOR	2SA1360	
Q109	8-729-202-67	TRANSISTOR	2SK246GR3	
Q110	8-729-202-67	TRANSISTOR	2SK246GR3	
Q111	8-729-104-18	TRANSISTOR	2SC3514	
Q112	8-729-203-45	TRANSISTOR	2SC3423	
Q113	8-729-203-45	TRANSISTOR	2SC3423	
Q114	8-729-203-45	TRANSISTOR	2SC3423	
Q115	8-729-209-17	TRANSISTOR	2SA1360	
Q116	8-729-209-17	TRANSISTOR	2SA1360	
Q117	8-729-203-45	TRANSISTOR	2SC3423	
Q118	8-729-209-17	TRANSISTOR	2SA1360	
Q119	8-729-203-45	TRANSISTOR	2SC3423	
Q201	8-729-127-53	TRANSISTOR	2SC2275-P	
Q202	8-729-127-53	TRANSISTOR	2SC2275-P	
Q203	8-729-141-10	TRANSISTOR	2SA985A-QP	
Q204	8-729-141-10	TRANSISTOR	2SA985A-QP	
Q205	8-729-300-11	TRANSISTOR	2SC2922	
Q206	8-729-300-10	TRANSISTOR	2SA1216	
Q207	8-729-300-11	TRANSISTOR	2SC2922	
Q208	8-729-300-10	TRANSISTOR	2SA1216	
Q209	8-729-300-11	TRANSISTOR	2SC2922	
Q210	8-729-300-10	TRANSISTOR	2SA1216	
Q211	8-729-300-11	TRANSISTOR	2SC2922	
Q212	8-729-300-10	TRANSISTOR	2SA1216	
Q213	8-729-300-11	TRANSISTOR	2SC2922	
Q214	8-729-300-10	TRANSISTOR	2SA1216	
Q251	8-729-127-53	TRANSISTOR	2SC2275-P	
Q252	8-729-127-53	TRANSISTOR	2SC2275-P	
Q253	8-729-141-10	TRANSISTOR	2SA985A-QP	
Q254	8-729-141-10	TRANSISTOR	2SA985A-QP	
Q255	8-729-300-11	TRANSISTOR	2SC2922	
Q256	8-729-300-10	TRANSISTOR	2SA1216	
Q257	8-729-300-11	TRANSISTOR	2SC2922	
Q258	8-729-300-10	TRANSISTOR	2SA1216	
Q259	8-729-300-11	TRANSISTOR	2SC2922	
Q260	8-729-300-10	TRANSISTOR	2SA1216	
Q261	8-729-300-11	TRANSISTOR	2SC2922	
Q262	8-729-300-10	TRANSISTOR	2SA1216	
Q263	8-729-300-11	TRANSISTOR	2SC2922	
Q264	8-729-300-10	TRANSISTOR	2SA1216	
		< RESISTOR >		
R101	1-259-676-11	CARBON	1K 2% 1W	
R102	1-259-595-11	CARBON	47K 1% 1/2W	
R103	1-249-711-11	CARBON	39K 5% 1/2W	
R104	1-247-723-11	CARBON	6.8K 5% 1/4W	
R105	1-259-539-11	CARBON	220 1% 1/2W	
R106	1-259-539-11	CARBON	220 1% 1/2W	
R107	1-259-585-11	CARBON	18K 1% 1/2W	
R108	1-249-520-11	CARBON	47 5% 1/4W	
R109	1-249-520-11	CARBON	47 5% 1/4W	
R110	1-259-539-11	CARBON	220 1% 1/2W	
R111	1-247-721-11	CARBON	4.7K 5% 1/4W	
R112	1-247-716-11	CARBON	1.8K 5% 1/4W	
R113	1-259-657-11	CARBON	160 2% 1W	
R114	1-259-819-11	CARBON	8.2K 2% 2W	
R115	1-259-819-11	CARBON	8.2K 2% 2W	
R116	1-249-556-11	CARBON	1.5K 5% 1/4W	
R117	1-249-713-11	CARBON	47K 5% 1/2W	
R118	1-247-721-11	CARBON	4.7K 5% 1/4W	
R119	1-219-030-11	FUSIBLE	220 5% 1/2W (US)	
R119	1-259-539-11	CARBON	220 1% 1/2W (Germany)	
R120 ⚠	1-219-018-11	FUSIBLE	68 5% 1/2W	
R121	1-247-711-11	CARBON	680 5% 1/4W	
R122	1-247-711-11	CARBON	680 5% 1/4W	
R123	1-247-711-11	CARBON	680 5% 1/4W	
R124	1-247-714-11	CARBON	1.2K 5% 1/4W	
R125 ⚠	1-219-022-11	FUSIBLE	100 5% 1/2W	
R126 ⚠	1-219-022-11	FUSIBLE	100 5% 1/2W	
R302	1-259-749-11	CARBON	10 2% 2W	
R401 ⚠	1-219-087-11	FUSIBLE	100 5% 1W	
R402 ⚠	1-219-087-11	FUSIBLE	100 5% 1W	
R405	1-249-462-11	CARBON	22K 5% 1/4W	
R406 ⚠	1-215-918-00	METAL OXIDE	1.5K 5% 3W F	
R407 ⚠	1-217-981-11	FUSIBLE	2.2 5% 1/2W	
R408	1-249-460-11	CARBON	15K 5% 1/4W	
R409	1-249-604-11	CARBON	150K 5% 1/4W	

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

MAIN(A) PS BIAS (L) BIAS (R) MAIN(B-R) MAIN(B-L) DRIVE FUSE SELECTOR SP.TM LED(L) LED(R)

Ref. No.	Part No.	Description				Remark
R410	1-247-887-00	CARBON	220K	5%	1/4W	
R411	1-247-891-00	CARBON	330K	5%	1/4W	
R412	1-247-725-11	CARBON	10K	5%	1/4W	
R413 ⚠	1-216-476-11	METAL OXIDE	180	5%	3W	F
		< VARIABLE RESISTOR >				
RT101	1-224-249-XX	RES, ADJ, METAL GLAZE 1K				
RT102	1-224-247-XX	RES, ADJ, METAL GLAZE 100				
		< CONNECTOR >				
VH3	1-564-320-00	PIN, CONNECTOR 2P				
VH4	* 1-564-243-00	PIN, CONNECTOR 6P				
VH6	* 1-564-104-00	PIN, CONNECTOR 3P				
**********						
	* A-4345-340-A	MAIN (B-R) BOARD, COMPLETE (US)				
	* A-4345-355-A	MAIN (B-R) BOARD, COMPLETE (Germany)				
	* A-4345-339-A	MAIN (B-L) BOARD, COMPLETE (US)				
	* A-4345-354-A	MAIN (B-L) BOARD, COMPLETE (Germany)				
		**********				
	* 1-632-120-11	DRIVE BOARD				
		**********				
	* 1-632-121-11	FUSE BOARD				
		**********				
	* 1-632-122-11	SELECTOR BOARD				
		**********				
	* 1-632-123-11	SP. TM BOARD				
		**********				
	* 1-633-166-11	LED (L) BOARD				
		**********				
	* 1-633-167-11	LED (R) BOARD				
		**********				
	1-533-183-11	HOLDER, FUSE				
	1-535-476-11	TERMINAL				
	* 1-535-730-21	LEAD, JUMPER (OFC)				
	* 1-560-242-11	BUS BAR 3P				
	* 1-560-242-21	BUS BAR 4P				
	1-565-063-11	BAR, BUS				
	* 4-835-639-00	PLATE, GROUND				
		< CAPACITOR >				
C1	1-161-742-00	CERAMIC	0.0022uF	20%	400V	
C201	1-104-233-00	POLYSTYRENE	220PF	10%	125V	
C202	1-104-233-00	POLYSTYRENE	220PF	10%	125V	
C203	1-125-582-11	ELECT	470uF	20%	63V	(Germany)
C204	1-104-319-11	POLYSTYRENE	10000PF	10%	125V	
C206	1-125-582-11	ELECT	470uF	20%	63V	(Germany)
C207	1-104-319-11	POLYSTYRENE	10000PF	10%	125V	
C209	1-123-369-00	ELECT	4.7uF	20%	63V	
C251	1-104-233-00	POLYSTYRENE	220PF	10%	125V	
C252	1-104-233-00	POLYSTYRENE	220PF	10%	125V	

Ref. No.	Part No.	Description				Remark
C253	1-125-582-11	ELECT	470uF	20%	63V	(Germany)
C254	1-104-319-11	POLYSTYRENE	10000PF	10%	125V	
C256	1-125-582-11	ELECT	470uF	20%	63V	(Germany)
C257	1-104-319-11	POLYSTYRENE	10000PF	10%	125V	
C259	1-123-369-00	ELECT	4.7uF	20%	63V	
C302	1-104-233-00	POLYSTYRENE	220PF	10%	125V	(Germany)
C501	1-123-380-00	ELECT	1uF	20%	100V	
C502	1-136-157-00	FILM	0.022uF	5%	50V	
C503	1-126-163-11	ELECT	4.7uF	20%	50V	
C504	1-136-157-00	FILM	0.022uF	5%	50V	
C505	1-124-234-00	ELECT	22uF	20%	16V	
		< DIODE >				
D201	8-719-912-20	DIODE	1SS120			
D202	8-719-912-20	DIODE	1SS120			
D251	8-719-912-20	DIODE	1SS120			
D252	8-719-912-20	DIODE	1SS120			
D301	8-719-200-02	DIODE	10E-2			
D501	8-719-303-00	DIODE	SEL2510C			
D502	8-719-301-38	DIODE	SEL2210S-C			
D503	8-719-912-20	DIODE	1SS120			
D504	8-719-912-20	DIODE	1SS120			
D505	8-719-301-61	DIODE	SEL2910A-D			
D506	8-719-301-61	DIODE	SEL2910A-D			
D507	8-719-301-61	DIODE	SEL2910A-D			
D508	8-719-301-61	DIODE	SEL2910A-D			
D509	8-719-301-61	DIODE	SEL2910A-D			
D510	8-719-301-61	DIODE	SEL2910A-D			
		< CONNECTOR >				
EH3	* 1-564-505-11	PLUG, CONNECTOR 2P				
EH5	* 1-564-505-11	PLUG, CONNECTOR 2P				
EH6	* 1-564-505-11	PLUG, CONNECTOR 2P				
EH7	* 1-564-509-11	PLUG, CONNECTOR 6P				
EH8	* 1-564-505-11	PLUG, CONNECTOR 2P				
EH9	* 1-564-506-11	PLUG, CONNECTOR 3P				
EH11	* 1-564-505-11	PLUG, CONNECTOR 2P				
		< COIL >				
L301	* 1-428-071-11	COIL, AIR-CORE 0.7uH				
		< TRANSISTOR >				
Q215	8-729-184-53	TRANSISTOR	2SC1845-EA			
Q216	8-729-140-82	TRANSISTOR	2SA988-PAFAEA			
Q265	8-729-184-53	TRANSISTOR	2SC1845-EA			
Q266	8-729-140-82	TRANSISTOR	2SA988-PAFAEA			
Q501	8-729-141-03	TRANSISTOR	2SA733-QP			
Q502	8-729-141-03	TRANSISTOR	2SA733-QP			
Q503	8-729-281-54	TRANSISTOR	2SC1815BL			
Q504	8-729-200-95	TRANSISTOR	2SJ74			

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

MAIN(B-R) MAIN(B-L) DRIVE FUSE SELECTOR SP.TM LED(L) LED(R)

Ref. No.	Part No.	Description				Remark
		< RESISTOR >				
R1 ⚠	1-259-671-11	CARBON	620	2%	1W	
R201 ⚠	1-219-010-11	FUSIBLE	33	5%	1/2W	
R202 ⚠	1-219-010-11	FUSIBLE	33	5%	1/2W	
R204 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R205 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R206 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R207 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R208 ⚠	1-219-079-11	FUSIBLE	47	5%	1W	
R209 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R210 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R211 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R212 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R213 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R214 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R215 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R216 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R217 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R218 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R219	1-219-117-11	RES, WIREWOUND	(0.47+0.47		3W)	
R220	1-219-117-11	RES, WIREWOUND	(0.47+0.47		3W)	
R221	1-219-117-11	RES, WIREWOUND	(0.47+0.47		3W)	
R222	1-219-117-11	RES, WIREWOUND	(0.47+0.47		3W)	
R223	1-219-117-11	RES, WIREWOUND	(0.47+0.47		3W)	
R224	1-219-038-11	FUSIBLE	470	5%	1/2W	
R225	1-247-713-11	CARBON	1K	5%	1/4W	
R226	1-247-713-11	CARBON	1K	5%	1/4W	
R227	1-249-460-11	CARBON	15K	5%	1/4W	
R228	1-249-460-11	CARBON	15K	5%	1/4W	
R229	1-249-460-11	CARBON	15K	5%	1/4W	
R230	1-249-460-11	CARBON	15K	5%	1/4W	
R231	1-247-721-11	CARBON	4.7K	5%	1/4W	
R232	1-249-497-11	CARBON	33K	5%	1/4W	
R233	1-249-661-11	CARBON	330	5%	1/2W	
R251 ⚠	1-219-010-11	FUSIBLE	33	5%	1/2W	
R252 ⚠	1-219-010-11	FUSIBLE	33	5%	1/2W	
R254 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R255 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R256 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R257 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R258 ⚠	1-219-079-11	FUSIBLE	47	5%	1W	
R259 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R260 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R261 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R262 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R263 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R264 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R265 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R266 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R267 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R268 ⚠	1-217-997-11	FUSIBLE	10	5%	1/2W	
R269	1-219-117-11	RES, WIREWOUND	(0.47+0.47		3W)	
R270	1-219-117-11	RES, WIREWOUND	(0.47+0.47		3W)	
R271	1-219-117-11	RES, WIREWOUND	(0.47+0.47		3W)	
R272	1-219-117-11	RES, WIREWOUND	(0.47+0.47		3W)	
R273	1-219-117-11	RES, WIREWOUND	(0.47+0.47		3W)	
R274 ⚠	1-219-038-11	FUSIBLE	470	5%	1/2W	
R275	1-247-713-11	CARBON	1K	5%	1/4W	
R276	1-247-713-11	CARBON	1K	5%	1/4W	
R277	1-249-460-11	CARBON	15K	5%	1/4W	
R278	1-249-460-11	CARBON	15K	5%	1/4W	
R279	1-249-460-11	CARBON	15K	5%	1/4W	
R280	1-249-460-11	CARBON	15K	5%	1/4W	
R281	1-247-721-11	CARBON	4.7K	5%	1/4W	
R282	1-249-497-11	CARBON	33K	5%	1/4W	
R283	1-249-661-11	CARBON	330	5%	1/2W	
R301 ⚠	1-259-749-11	CARBON	10	2%	2W	
R501	1-249-945-11	CARBON	8.2K	1%	1/4W	
R502	1-247-717-11	CARBON	2.2K	5%	1/4W	
R503	1-247-725-11	CARBON	10K	5%	1/4W	
R504	1-247-725-11	CARBON	10K	5%	1/4W	
R505	1-247-721-11	CARBON	4.7K	5%	1/4W	
R506	1-247-725-11	CARBON	10K	5%	1/4W	
R507	1-249-513-11	CARBON	24	5%	1/4W	
R508	1-247-721-11	CARBON	4.7K	5%	1/4W	
R509	1-246-545-00	CARBON	1.0M	5%	1/4W	
R510	1-247-703-11	CARBON	180	5%	1/4W	
		< RELAY >				
RY301	1-515-703-11	RELAY				
RY302	1-515-703-11	RELAY				
RY303	1-515-703-11	RELAY				
		< SWITCH >				
S101	1-572-074-11	SWITCH, ROTARY (INPUT SELECTOR)				
		< CONNECTOR >				
VH1	1-564-320-00	PIN, CONNECTOR 2P				
VH2	1-564-320-00	PIN, CONNECTOR 2P				
VH8 *	1-564-241-00	PIN, CONNECTOR 4P				
VH9 *	1-564-243-00	PIN, CONNECTOR 6P				
VH10 *	1-564-104-00	PIN, CONNECTOR 3P				

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

IC

Ref. No.	Part No.	Description	Remark
*	1-633-170-11	IC BOARD	
		********	
		< IC >	
IC501	8-759-947-34	IC LM35DZ	
		**********	
		MISCELLANEOUS	
		**********	
174	1-533-185-11	HOLDER, FUSE (US)	
CNP1	⚠ 1-559-271-11	CORD, POWER (Germany)	
CNP1	⚠ 1-559-479-11	CORD, POWER (US)	
F1	⚠ 1-532-325-00	FUSE, TIME-LAG (6.3A) (Germany)	
F1	⚠ 1-532-510-00	FUSE, GLASS TUBE (8.0A) (US)	
J1	1-568-918-11	JACK, PIN 1P (UNBALANCED)	
J2	1-568-918-11	JACK, PIN 1P (HOT)	
J3	1-568-918-11	JACK, PIN 1P (COLD)	
J4	1-568-917-11	CONNECTOR, CANON (SOCKET) 3P (BALANCED)	
M501	1-520-507-11	METER	
S1	1-554-538-00	SWITCH, PUSH (AC POWER) (1 KEY) (POWER)	
S201	1-576-080-11	THERMOSTAT	
S251	1-576-080-11	THERMOSTAT	
T1	1-424-299-11	TRANSFORMER, LINE	
T2	⚠ 1-450-490-11	TRANSFORMER, POWER (US)	
T2	⚠ 1-450-491-11	TRANSFORMER, POWER (Germany)	
TM301	1-537-248-11	TERMINAL BORAD (SPEAKER 2P)	
		**********	
		ACCESSORIES & PACKING MATERIALS	
		**********	
	3-703-450-01	INSTRUCTION (US)	
	3-751-053-11	MANUAL, INSTRUCTION (English, French, Spanish, Portuguese) (Germany)	
	3-751-053-21	MANUAL, INSTRUCTION (English) (US)	
	3-751-053-41	MANUAL, INSTRUCTION (German, Dutch, Swedish, Italian) (Germany)	
	4-362-304-00	GUARD, PLUG	
*	4-935-245-01	CUSHION	
*	4-945-283-01	INDIVIDUAL CARTON	

HARDWARE LIST

****

Ref. No.	Part No.	Description	Remark
# 1	7-682-560-09	SCREW +B 4X6	
# 2	7-682-650-09	SCREW +PSW 3X12	
# 3	7-682-561-09	SCREW +B 4X8	
# 4	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
# 5	7-685-144-19	SCREW +P 3X5 TYPE2 NON-SLIT	
# 6	7-683-425-04	BOLT, HEXAGON SOCKET 4X20	
# 7	7-685-645-79	SCREW +BVTP 3X6 TYPE2 N-S	
# 8	7-682-547-09	SCREW +B 3X6	
# 9	7-682-562-04	SCREW +B 4X10	
#10	7-624-105-04	STOP RING 2.3, TYPE -E	
#11	7-682-548-09	SCREW +B 3X8	
#12	7-682-147-15	SCREW, TR	
#13	7-682-552-04	SCREW +BVTT 3X16 (S)	
#14	7-682-148-15	SCREW, TR	
#15	7-682-149-15	SCREW, TR	
#16	7-682-248-09	SCREW +RK 3X8	
#17	7-682-566-09	SCREW +B 4X20	
#18	7-682-580-09	SCREW +B 5X25	
#19	7-682-551-09	SCREW +B 3X14	
#20	7-682-575-09	SCREW +B 5X10	
#21	7-682-569-09	SCREW +B 4X35	
#22	7-682-666-09	SCREW +PSW 4X20	
#23	7-682-581-09	SCREW +B 5X30	
#24	7-688-005-01	WASHER, PICTURE TUBE	
#25	7-688-004-02	W 4, SMALL	
#26	7-682-577-09	SCREW +B 5X14	
#27	7-684-024-04	N 4, TYPE 2	
#28	7-623-210-22	SW 4, TYPE 2	

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

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